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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,140	05/17/2005	Christelle Marie Guittet	05-367	3587

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EXAMINER

AZARIAN, SEYED H

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,140

Applicant(s)

GUITTET ET AL.

Examiner

Seyed Azarian

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 17-22 is/are allowed.
- 6) ☒ Claim(s) 10, 23 and 31 is/are rejected.
- 7) ☒ Claim(s) 11-16, 24-26 and 32-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/18/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 27-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows;

Claims 27 and 31 states, "A computer program for use in measuring mitotic activity from histopathological specimen image data". Such claimed "computer program" do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer. In order to be statutory the claim should state, "A computer readable medium storing a computer application program read by a computer system; or a computer **encoded** with one of the following: a "computer program"; "software"; "computer executable instructions"; or instructions capable of being executed by a computer"; or state, "A computer "storing a" computer program; or state, "A computer **embodied with a** computer application program read by a computer system".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 10, 23 and 31, are rejected under 35 U.S.C. 102(e) as being anticipated by Vaisberg Eu (WO 02/47032).

Regarding claim 10, Vaisberg discloses a method of measuring mitotic activity from histopathological specimen image data, the method having the steps of (page 3, lines 7-8, analyze images of cells and categorize the cells in particular cell cycle phases based upon certain features);

a) measuring an intensity profile of an image region corresponding to a potentially mitotic figure (page 3, lines 9-27, characterize a cell as mitotic based on morphological and textual parameter such as pixel intensities);

b) counting the image region as indicating a mitotic figure if its profile has a value greater than a prearranged threshold at a position in the profile having intensity associated with mitotic figure imagery (page 12, lines 1-9, pixels with intensity values above threshold in a given neighborhood are belong to a particular cell).

With regard to claims 23 and 31 the arguments analogous to those presented above for claim 10 are respectively applicable to claims 23 and 31.

Allowable Subject Matter

4. Claims 11-16, 24-26 and 32-34 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

REASONS FOR ALLOWABLE CLAIMS

5. The following is an examiner's statement of reasons for allowance.

Claims 1-9, 17-22 are allowable.

The instant invention generally relates to a method, an apparatus and a computer program for measurement of mitotic activity, which indicates cell division taking place in a tissue specimen: it is particularly relevant to making measurements on potentially cancerous tissue such as breast cancer tissue. The method is also relevant to other forms of cancer such as colon and cervical cancer.

Claim 1, representing claim 17, the closest prior art of record (Vaisberg) references do not disclose or suggest, among other things, "selecting from among the identified pixels a reference pixel which is sufficiently close in position and luminance to another identified pixel to provide a reference colour, locating pixels in the image data with luminance's sufficiently close to that of the reference colour to indicate potentially mitotic figures, incrementing image regions corresponding to potentially mitotic figures from the located pixels by adding pixels thereto, potential increments to image regions being implemented or rejected by according to whether or not their luminance's are sufficiently close to respective image region luminance's and sufficiently far from an image data background luminance, and selecting grown image regions on the basis of thresholds for image region area, compactness and width/height ratio, counting selected grown image regions as actually indicating mitotic figures on the basis of a threshold for number of such regions".

These key features in combination with the other features of the claimed invention are neither taught nor suggested by (Vaisberg) prior art of record.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Seyed Azarian/
Primary Examiner, Art Unit 2624
May 16, 2008